

09/542061

Systems and methods for enhancing the stability of a mode-locked laser's output are disclosed. The laser systems include a mode-locking element that mode-locks the laser's output, and a semiconductor element. The semiconductor element produces a loss at the laser's operative wavelength that increases as pulse energy increases, thereby enhancing the stability of the mode-locked output. The semiconductor elements can be used to enhance stability of both passively and actively mode-locked laser systems.